Specification sheet

Diesel Generator set QST30 series engine

835 kW – 920 kW 60 Hz

Data Center Continuous

Description

This Cummins commercial generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for stationary Standby, Prime Power, and Continuous duty applications.

Features

Data Center Continuous (DCC) - Applicable for supplying power continuously to a constant or varying electrical load for unlimited hours in a data center application.

Uptime Compliant - Meets the requirement of a Tier III and IV data center site by being rated to run for unlimited hours of operation when loaded to 'N' demand for the engine generator set.

Cummins heavy-duty engine - Rugged 4-cycle, industrial diesel delivers reliable power, low emissions and fast response to load changes.

Permanent Magnet Generator (PMG) - Offers enhanced motor starting and fault clearing short circuit capability.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings; low waveform distortion with non-linear loads, fault clearing short-circuits capability, and class H insulation.

Cooling system – Standard integral set-mounted radiator system, designed and tested for rated ambient temperatures, simplifies facility design requirements for rejected heat.

Control system – Standard PowerCommand® electronic control provides total system integration including remote start/stop, precise frequency and voltage regulation, alarm and status message display, AmpSentry™ protection, output metering, auto-shutdown.

Enclosures - Optional weather-protective and sound-attenuated enclosures are available.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor network.

Motorized circuit breaker - Optional 3 or 4 pole motorized circuit breaker available.

ISO 8528-5 G3 Capable – Refer to factory for site and configuration specific transient performance classification

Model	60 Hz kW (kVA)	Data sheets
C900 D6	835 (1044)	DS367-CPGK-DC
C1000 D6	920 (1150)	DS82-CPGK-DC

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Generator set specifications

Governor regulation class	ISO8528-5 Part 1
Voltage regulation, no load to full load	± 0.5%
Random voltage variation	± 0.5%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
EMS compatibility	EN61000-6-4/EN 61000-6-2

Engine specifications

Design	4 cycle, in-line, turbocharged and charge air-cooled – C1000 D6 4 cycle, in-line, turbocharged and after-cooled – C900 D6
Bore	140 mm (5.51 in.)
Stroke	165.1 mm (6.5 in.)
Displacement	30.5 L (1860 in^3)
Cylinder block	Cast iron, 50° V 12 cylinder
Battery capacity	1280 amps at ambient temperature 32 °F (0 °C)
Battery charging alternator	35 amps
Starting voltage	24 volt, negative ground
Fuel system	Direct injection
Fuel filter	Spin on fuel filters with water separator
Air cleaner type	Dry replaceable element with restriction indicator
Lube oil filter type(s)	Four spin-on full flow, two bypass oil filters
Standard cooling system	104 ºF (40 ºC) ambient radiator

Alternator specifications

Design	Brushless, 4 pole, drip proof, revolving field
Stator	2/3 pitch
Rotor	Direct coupled by flexible disc
Insulation system	Class H
Standard temperature rise	150 °C standby
Exciter type	Permanent Magnet Generator (PMG)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform Total Harmonic Distortion (THDV)	No load < 1.5%. Non distorting balanced linear load < 5%
Telephone Influence Factor (TIF)	< 50%
Telephone Harmonic Factor (THF)	< 2%

Available voltages

60 Hz Line – Neutral / Line - Line

- 120/208
- 127/220
- 220/380
- 230/400
- 240/416
- 255/440
- 277/480

Generator set options

Engine
- Heavy duty air filter
- Water jacket heater 220/240 V

Alternator
- Alternator heater
- Exciter voltage regulator (PMG)

Cooling
- Antifreeze 50/50 (Ethylene glycol)
- Optional 50 °C cooling radiator

Circuit breaker
- 3 or 4 pole manual circuit breaker
- 3 or 4 pole motorized circuit breaker
- Aux contacts and trip alarm

Control panel
- PowerCommand 3.3
- PowerCommand 3.3 MLD
- Shutdown audible alarm
- Shunt trip – 24 VDC

Enclosure
- 20 ft container (C1000 D5/C900 D6)

Warranty
- 2 years for Prime application
- 5 years for Standby application
- 10 years for major components

Silencer
- 9 dB attenuation industrial silencer
- 25 dB residential delivered loose

*Note: Some options may not be available on all models - consult factory for availability.

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PowerCommand 3.3 – control system

The PowerCommand 3.3 control system is an integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing.

AmpSentry – Includes integral AmpSentry protection, which provides a full range of alternator protection functions that are matched to the alternator provided.

Power management – Control function provides battery monitoring and testing features and smart starting control system.

Advanced control methodology – Three phase sensing, full wave rectified voltage regulation, with a PWM output for stable operation with all load types.

Communications interface – Control comes standard with PCCNet and Modbus interface.

Regulation compliant – Prototype tested: UL, CSA and CE compliant.

Service - InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

Reliable design – The control system is designed for reliable operation in harsh environment.

Multi-language support

Operator panel features

Operator panel features – The operator panel, in addition to the alternator, displays the Utility/AC Bus data.

Operator/display functions

- 320 x 240 pixels graphic LED backlight LCD
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Paralleling control functions

- Digital frequency synchronization and voltage matching
- Isochronous kW and kvar load sharing controls
- Droop kW and kvar control
- Sync check
- Extended paralleling (peak shave/base load)
- Digital power transfer control (AMF) provides load transfer operation in open or closed transition or soft (ramping) transfer mode

Alternator data

- Line-to-Neutral and Line-to-Line AC volts
- 3-phase AC current
- Frequency
- kW, kVar, power factor kVA (three phase and total)

Engine data

- DC voltage
- Engine speed
- Lube oil pressure and temperature
- Coolant temperature
- Comprehensive FAE data (where applicable)

Other data

- Genset model data
- Start attempts, starts, running hours, kW hours
- Load profile (operating hours at % load in 5% increments)
- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital governing

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 3-phase, 4-wire Line-to-Line sensing
- Configurable torque matching

AmpSentry AC protection

- AmpSentry protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse Var shutdown
- Field overload

Engine protection

- Battery voltage monitoring, protection and testing
- Over speed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Fail to start (over crank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Fuel-in-rupture-basin warning or shutdown
- Full authority electronic engine protection

Control functions

- Time delay start and cool down
- Real time clock for fault and event time stamping
- Exerciser clock and time of day start/stop
- Data logging
- Cycle cranking
- Load shed
- Configurable inputs and outputs (4)
- Remote emergency stop

Options

- Auxiliary output relays (2)

Masterless Load Demand (MLD)

- Load dependent start/stop of multi-generator system
- Predictive load input
- Run hour equalization

PowerCommand 3.3 control operator/display panel

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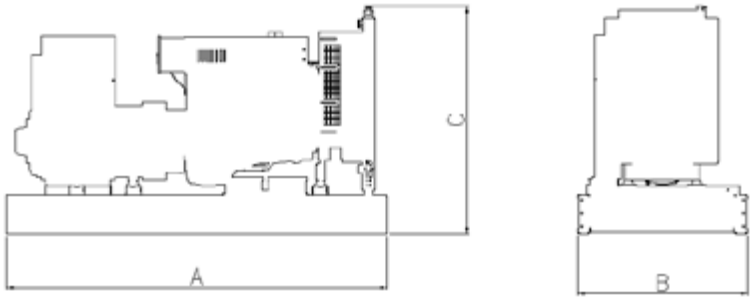

This outline drawing is to provide representative configuration details for Model series only.
See respective model data sheet for specific model outline drawing number.
Do not use for installation design

Model	Dim “A” mm	Dim “B” mm	Dim “C” mm	Set weight* dry kg	Set weight* wet kg
C900 D6	4302	1702	2139	6304	6520
C1000 D6	4417	2000	2387	6934	7144

* Note: Weights represent a set with standard features. See outline drawings for weights of other configurations.

Codes and standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

ISO 9001	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.	CE	This generator set is available with CE certification subject to EU RoHS exclusion per EU 2011/65.
2000/14/EC	All enclosed products are designed to meet or exceed EU noise legislation 2000/14/EC step 2006.	ISO 8528	This generator set has been designed to comply with ISO 8528 regulation

For more information contact your local Cummins distributor or visit power.cummins.com

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